

# THE FLITCH GREEN

ACADEMY

*Learning for Life*

## **Maths Subject Statement**

*'What is mathematics? It is only a systematic effort of solving puzzles posed by nature.'*

*– Shakuntala Devi*

### **Intent:**

At The Flitch Green Academy, we view mathematics as essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, and a sense of enjoyment and curiosity about the subject.

Our intent is to provide children with a mathematics curriculum that will allow them to become confident individuals through developing their mathematical skills to their full potential. We also aim to present maths as a challenging, exciting, creative and relevant subject in order to promote a positive and confident attitude.

We intend to ensure that pupils get regular opportunities in addition to discrete lessons to consolidate, remember and reinforce their mathematical knowledge.

In line with the National Curriculum (2014) and using White rose as a planning format and progressive curriculum, our overall intent focuses on all pupils being able to:

To use and understand a wide range of appropriate mathematical language to discuss, explain and justify their mathematical thinking and reasoning.

To explore and deepen their mathematical understanding through a C-P-A approach, allowing exploration, acquisition of fluency skills and application of skills to a range of problems and lines of enquiry.

To become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

To move fluently between different representations of mathematical ideas.

We want our children to be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification

or proof using mathematical language and accurate vocabulary.

They should be able to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Children can make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

They can apply mathematical knowledge across the curriculum in science and other subjects relating mathematical knowledge and skills to real life situations.

We want all children to access challenges of rich and sophisticated problems when they grasp fluency concepts rapidly rather than progressing to new content.

There should be opportunities to consolidate learning and concepts through repetition and intervention to acquire sound foundations for fluency of mathematics.

### **Implementation**

We follow the White Rose scheme of work. This enables children to have a breadth of knowledge and, importantly, a great depth of understanding of Maths. Through careful planning of 'small steps' which sequentially build on each other, children achieve strong arithmetical, reasoning and problem solving skills which they can apply across different areas of Maths and subjects.

This ensures a progressive and thorough curriculum in every year group. Teachers know which objectives must be taught and assessed in each year group and can follow progressive small steps to ensure pupils have a comprehensive understanding of maths. Teachers use a mastery approach and adapt planning where necessary to meet the needs of the pupils they are teaching.

Implementation in the EYFS:

Children follow the EYFS framework and work towards the ELG in Maths. The environment is Maths rich and there are regular and continuous opportunities to play and learn using CPA methods.

Teachers are encouraged to plan on slides software format, creating slides for each 'small step' with teaching points and activities to be completed. This format ensures evaluation of each lesson and subsequent lessons are adapted accordingly.

WRM (White Rose Maths) promotes kinaesthetic learning to ensure children acquire fluency of skills by introducing concepts in a practical/concrete way to progress to pictorial then abstract (C-P-A).

Teachers deliver one mastery curriculum for all, providing opportunities to stay together (guided practice) and to work through new content as a whole group. Teachers teach the

whole class, allow pupils time to practise and bring the class back together to move on.

Differentiated learning is provided through a selection of tasks to consolidate fluency, use skills to solve problems or use skills and reasoning skills to solve higher-level challenge problems. Teachers should use their professional judgement to determine the activities, timing and organisation in each lesson in order to suit the teaching objectives and ensure children understand each small step.

Using principles of Rosenshine classes have a Recap, Remember session four days out of 5 for 15 minutes. This follows the format of:

Session 1: Last week

Session 2: Last Month

Session 3: Last Unit

Session 4: Last year

End of unit block assessments will inform planning for these sessions.

Teachers select aspects of the curriculum to consolidate in these quick sessions and this may take the form of a quiz, reasoning questions or quick recall exercises.

Teachers will give high quality opportunities in lessons for children to learn new content, become fluent in concepts and to be able to apply these concepts confidently in reasoning questions.

Summer term target

Problem solving is at the heart of Maths teaching and learning and we implement the following in our Maths lessons across the school:

I know that - facts

I know how - methods

I know when - reasoning

Summer term target

Children are encouraged to mark their own work in Maths to ensure we are supporting discussions about mistakes and addressing misconceptions quickly.

For SEND children with barriers in Maths learning, adults will support where needed by breaking tasks into smaller chunks to enable scaffolding leading to independent learning. One plan that indicates Maths targets will be referred to in lessons and appropriate scaffolding and resources will be introduced. As we teach a mastery approach, pupils are identified quickly who have not mastered a concept and this is addressed in the next lesson or in subsequent lessons.

How implementation is supported:

Audits are used to identify the training needs of teachers and applied where needed.

The school works with the Local Maths hub for continued professional development and this enables collaborative planning and additional training.

Maths lead observes and works with teachers to ensure teaching is of a high standard and supports improvement where needed.

### **Impact:**

In Maths teachers measure impact in formative assessment in the classroom, this is based on the mastery approach and where needed children are given additional opportunities to master a concept or mathematical idea.

Half termly assessments are used to measure understanding and this informs planning in future lessons.

Children have regular opportunities to mark their own work and see their own progress, as well as receiving high quality feedback on their learning.

National assessments in Year 2 and 6 are used to identify trends in Maths and to discover where the school can make further improvements in Maths teaching.